The birds that were found in these small unbroken prairie areas are chiefly of species that live in woodlands, including shrubby growths, but only a small proportion of the species of the woodland birds of the Charleston region appear to visit the prairie ponds. Some marsh birds are found in them. The true open field birds treat these areas as they do woodlands, avoiding them almost entirely. Upland plovers, horned larks, dickcissels, savanna sparrows, and grasshopper sparrows, all of which are common in the Charleston region, gave no indication of being attracted by these ponds.

Since these areas of undrained prairie land constitute a distinct type of bird habitat with a fauna having some semblance to that of the old prairie sloughs and since they are rapidly being destroyed, ornithologists, who find them accessible for field work, should strive to preserve data on the bird inhabitants of these and other remnants of the primitive prairies.

Charleston, Ill.

THE TERNS OF WEEPECKET ISLANDS, MASSACHUSETTS.

BY ALVIN R. CAHN.

DURING the summer of 1903 and 1904, Professor Lynds Jones had the opportunity of watching and studying the colony of terns (*Sterna hirundo* and *S. dougalli*) in the vicinity of Woods Hole, Massachusetts, and the results of this study were given to the public a couple of years later.[1] As Professor Jones does not confine his remarks to any one special colony, it may be taken for granted that his observations will hold for one island he investigated as well as for another. Among the islands he visited was the small group of three known as the Weepeckets, located about four miles off the coast of Woods Hole. Eleven years have elapsed since Professor Jones investigated these islands, and it is evident from obser-

[1] Jones, L., "A Contribution to the Life History of the Common (*Sterna hirundo*) and Roseate (*Sterna dougalli*) Terns." Wilson Bull., Vol. XVIII, No. 2, June 1906, pp. 35–47.

vations made by the writer during his brief opportunity to survey the islands in 1915, that marked changes have occurred in this particular colony, which may be worthy of notation. A large colony, as accessible to scientists as that on the Weepecket islands, should be carefully watched and all possible data accumulated which will lead to a fuller understanding of the natural history of the species. The writer wishes to express his sincere appreciation to the staff of the Marine Biological Laboratory, which made his visit to the islands possible, and especially to Mr. George Gray, who arranged for his transportation to and from the islands.

The Weepeckets, as a group, comprise three islands—two very small, being probably less than half a mile in circumference at high tide—and a larger one, approximately a mile in extent. All three are treeless, margined by a wide, gently sloping sand beach, the monotony of which is broken by areas of boulders, and covered by a knee-high growth of vegetation, of which poison ivy (*Rhus toxicodendron L.*) forms no small per centage. High-water mark is clearly indicated by a nearly continuous line of sea weed, interspersed with occasional old skate (*Raja crinacea*) egg-cases. The beach is practically devoid of life,—as would be expected in the case of an exposed flat of this character,—with an occasional razor clam (*Ensis directus*) stranded in some tide pool behind the boulders, the inevitable "sand-flea" (*Orchestia agilis*), the Acorn shell barnacle (*Balanus balanus*), and the commonest of the marine molluscs (*Littorina littoria*).

As I neared the island (the time being limited, I confined myself to the larger island, with only a very hasty look at the smaller two), there was considerable doubt in my mind as to what would be found there, as very few birds were in evidence. Some two dozen terns sailed leisurely overhead, and paid little or no attention to the approaching boat. It seemed hardly possible that as early as June 28 nesting should be over, as the spring had been very cool and backward, and it seemed hard to believe that so ideal a breeding site would be abandoned without good cause. However, with the first

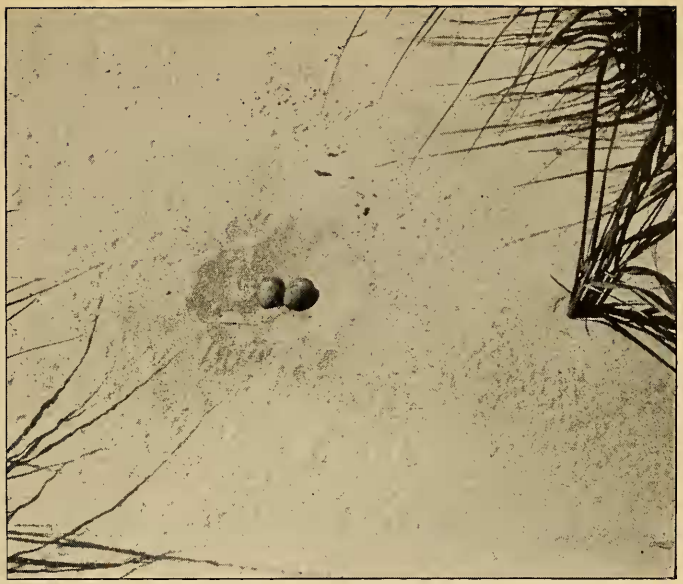

Fig. 1, Common Tern. Type I, A Simple Depression in the Sand.

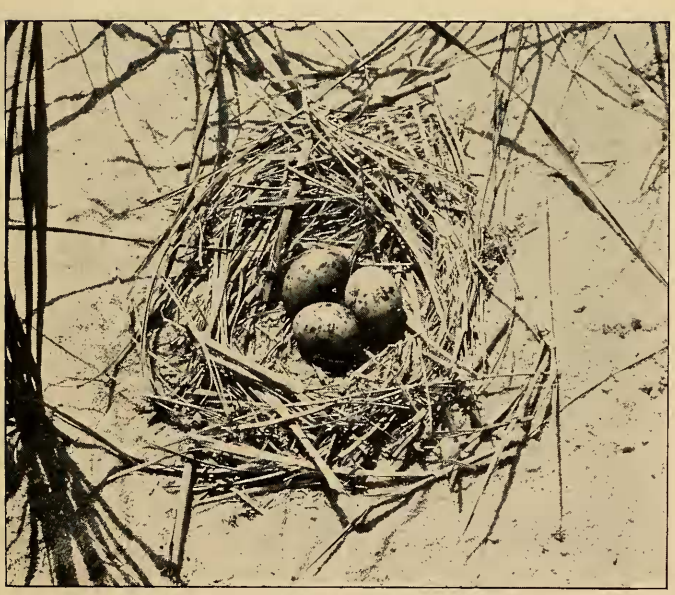

Fig. 2, Common Tern. Type II, A Well Constructed Grass Nest on the Beach.

grating of the boat on the beach, all doubts were forcibly expelled, for instantly it seemed as if the entire island had burst into life and was about to rise bodily out of the water and soar away. In an instant the quiet green was transformed into a blaze of dazzling white, as hundreds upon hundreds of long-winged, long-tailed birds sprang from their nests and swung into graceful flight overhead. Like a great, slow-moving wave the birds rose, until it seemed quite certain that very nearly all the birds were a-wing. The air was alive with them, each screaming and calling in what seemed to be an honest effort to out-scream and out-call his neighbor. The birds at either end of the island, seeing that the cause of the confusion was not to their immediate concern, soon returned to their nests, but wherever I went I was accompanied by protesting birds, so that for two days I had hardly any peace.

As the object of the trip was a survey of the colony, and as photographs were desired, some few minutes were spent in selecting a suitable position for the umbrella blind, after which it was speedily erected. For nearly half an hour after I was safely inside, the birds wheeled and screamed overhead; then one by one they dropped to the ground, and waddled to their respective nests. As luck would have it, I chose well in selecting the individual for photographic purposes, and in the nest three hours she was shot no less than sixty times. After a short time it became necessary, in order to get a variety of poses, to resort to radical treatment to make the bird leave the nest, and in the end it was necessary to thrust a leg out suddenly from under the blind, or actually to prod the bird with a stick.

For nearly seven hours I sat in the blind, photographing at intervals, and watching the actions of the birds about me. In approaching the nests the birds never settle directly on the eggs, but alight near,—often within five feet of them,—and then waddle over the intervening distance. Often the birds stand for some minutes over the eggs, shading them from the hot sun: again, they approach, and without any ado, settle upon the eggs. Usually the birds find it necessary to remodel the

nest to a greater or less extent, depending upon the character of the nest, each time they return to it. This usually consists of scratching a slight depression first with one leg, then with the other, and these holes seem to function as the resting place for the legs. It will be remembered that these nests are essentially shallow depressions in the sand, with but a thin lining of "legal" nesting material. The sand, being very dry, is jarred out of place every time the bird springs from the nest: hence, probably, the necessity, or at least the desirability of hollowing out the nest again. In the cases where a considerable amount of lining is used this scratching is omitted, but when there is little lining, as in the case of the bird most photographed, scratching almost invariably occurs.

Both sexes incubate—as pointed out by Dr. Jones, and the process of changing off is as he describes. Evidently the female does a large part of the incubating; in the case of the photographic subject the male did not put in an appearance during the seven hours I was in the blind; the female had a broken primary that made it certain that it was always the same bird that returned to the nest. She never called for her mate, nor did she in any way show signs of expecting his appearance. It is possible that owing to some tragedy, he had not materialized for some time, and the female had given up hopes of his arrival and had consoled herself to the task ahead of her. As an incubator the male is very restless, and evidently does his share under protest. Often he does not sit upon the eggs at all, but stands over them, calling continually, and fidgeting about nervously. Whereas the female waits until the male is nearly at her side before leaving the nest, the male seems to stand the strain of incubating as long as possible—usually not more than fifteen minutes—then, after an outburst of complaints, leaves the nest as if he could endure it no longer. The female usually appears within a minute or two to take his place.

What impressed me most during my vigil was the marvelous amount and variety of noise the birds were capable of making. While on the wing the birds have their well known

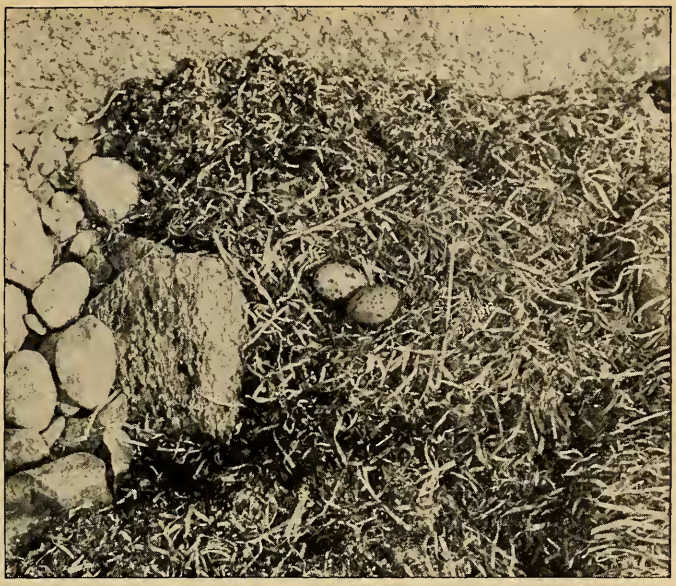

Fig. 3, Common Tern. Type III, A Depression in the Seaweed Drift.

Fig. 4, Common Tern. Type IV, Grass-lined Nest in Vegetation; Egg Just Hatched.